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SURGICAL INJURIES OF THE HEAD.¹

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In this paper I shall confine my remarks mainly to one branch of the subject, namely, fractures of the skull, with effusion of blood between the dura mater and bone.

CASE I. On the evening of September 10, 1876, William Ather-ton, a boy seven years of age, received a kick upon the right temple from a horse. When he was lifted from the ground, no visible signs of life were present, but after four or five minutes a slight general convulsion occurred, respiration was resumed, several cries were uttered, and partial consciousness returned. Questions were comprehended, and the lad was able to reply intelligently. Vomiting quickly came on, and in about forty minutes after the accident I found him in the following condition: He was very pale, flaccid, respiration easy, no puffing of the corners of the mouth or other apoplectic symptoms; pulse 58, soft and small. Pupils of both eyes enormously dilated and nearly insensible to light. There was no facial or other paralysis. When questioned he answered feebly and intelligently; when undisturbed he lay in a tranquil sleep. Blood had flowed freely from a wound in the right temple, but now had ceased. An examination revealed a contused compound fracture of the right parietal bone, with displacement of a fragment. When the patient was well etherized, I made an exploratory incision from the margin of the os frontis to a point half an inch above the ear, about four inches in length. The skull exposed, a contused wound on the lower anterior border of the right parietal bone was found, with comminution and displacement of some of the fragments. From this point, posteriorly crossing the upper border of the squamous portion of the temporal bone, was a fissure four inches in length, below which the temporal and lower margin of the parietal were depressed to the depth of half an inch, and firmly fixed. In fact, the depression corresponded in length to the horse's shoe, one calk having produced the contused wound, while the remaining portion depressed the base of the skull in

¹ Read before the Massachusetts Medical Society, and recommended for publication in the JOURNAL.

the region already described. Fully exposing the skull as far as I had reason to suppose the fracture extended, I removed a triangular fragment, now shown attached to the photograph, which was immediately followed by a gush of blood to the amount of about four ounces by estimate. Five or six small, irregular, pointed fragments of the inner plate were removed, several of which were discovered some distance from the opening by means of a probe. The opening having been explored with the finger and the clots removed, the brain quickly refilled the place occupied by the effused blood, and it was now apparent that the hæmorrhage had proceeded from a rupture of the anterior branch of the middle meningeal artery. The depressed temporal and parietal bones being seized with a pair of forceps, with a strong hand, the symmetry of the right inferior portion of the skull was restored. There was a single vertical cut in the dura mater, about half an inch in length; further than this there was no apparent injury of this membrane. The meningeal artery soon ceased to bleed after the application of ice. In the early part of the operation the anterior temporal artery was cut, and a pair of bulldog forceps were fastened on and allowed to remain until the operation was closed; when removed, hæmorrhage did not recur. The wound was closed, the patient placed in bed, and ice-water compresses applied every fifteen minutes. As soon as the effects of the ether had passed, the patient regained his consciousness completely.

Observation clearly showed that a reduction of the temperature below a certain point caused a partial collapse, evinced by a small and feeble pulse, pallor of face, and sighing respiration. The pupils remained large for several days, as though under the influence of belladonna. Vomiting came on, and continued at regular intervals for four or five days. The action of the brain could be observed through the opening in the skull, and its violence was controlled by the use of bromide of potassium in solution thrown into the rectum at the rate of one half drachm every six hours. By means of this agent twelve or fourteen hours of calm sleep were obtained daily. The pulse and temperature after the first twelve hours were each about a hundred. The case went on to convalescence without accident. A single fact is worthy of record. The scalp wounds healed quickly, save one small opening the size of an ordinary probe, leading to a sac of no great dimensions, which was immediately contiguous to the cut in the dura mater, from which, as it seemed, the serum from the arachnoid escaped for two or three weeks. Not the slightest abnormal condition of the brain or nervous system exists as a sequel of the accident, so far as is known.

CASE II. August 28, 1876, I was called to visit a lad eight years of age, who had received a wound in the left parietal region at its greatest convexity. The boy had fallen from a wagon, and the seat had struck his head, the injury being produced, as was supposed, by a bolt project-

ing beyond the nut. When first examined, I found a puffy tumor which seemed to contain fluid, also a slight contusion of the scalp. A digital examination convinced me that there was depressed bone. The lad was able to sit up, and even walked about without any inconvenience, answered questions readily, was impatient of interference, and cried out when the wound was examined. When not disturbed he wished to sleep, and desired to be let entirely alone. Under these circumstances I determined to explore the tumor. The patient being placed well under the influence of ether, I made a free incision to the bone, at the greatest diameter of the tumor. A large blood clot was turned out, and the cranium exposed. An oval fracture was revealed, measuring one and three fourths inches by one inch and a quarter. The margin was entirely broken away and pretty uniformly depressed, just the thickness of the skull. In the centre of this detached oval plate, at its greatest diameter, was a contused fracture, with comminution, the fragments being driven sharply in to the depth of about half an inch, the depression being the size of a finger's end. A linear fissure extended from the centre of the depression laterally to its margin, isolating the upper third; still another linear fissure extended from the depressed point downward to the margin of the greatest diameter, the lower section not being entirely separated. Carefully detaching a minute fragment with a sharp-pointed instrument, I was able to introduce the beak of a pair of narrow forceps, and to lift the upper section to its normal position. Immediately there was an abundant flow of blood, about two ounces by estimate. At the point of contusion were several fragments of the inner plate, also one or two some distance away, which were detected by means of a bent probe, drawn to the opening, and removed. The dura mater was intact, so far as could be seen, but separated extensively from the skull, having been dissected up by the hæmorrhage. The spiculæ, five or six in number, and clots being removed, I cut out of the free margin of the replaced fragment, with a pair of eating forceps, an opening large enough to retain a blade of my narrow forceps. From this opening I lifted the lower section into position. The throbbing brain immediately closed the cavity and expelled the blood remaining under the skull. I am not able to state whether the dura mater was entirely separated from both sections, but I am sure it was entirely free from the upper portion and for quite a distance around. When all hæmorrhage had ceased, the scalp was drawn together and retained in position, mainly by bandages. An opiate was given, cold compresses were applied to the region of the wound, and absolute rest was enjoined. For four days following there was but slight disturbance of the system; both pulse and temperature continued about normal. The external wound closed by first intention, and convalescence seemed established. The free use of bromide of potassium, either by mouth or rectum, both

quieted the throbbing of the cerebral mass and gave sleep. On the fifth day the lad had a severe rigor, pulse rose to 120, temperature to 102° . He experienced pain in his head, and complained that it felt large. I gave calomel and chlorate of potash in small doses, frequently repeated, and applied a poultice to the whole affected side of his head. The wound was reopened to the dura mater, about a drachm of pus escaped, and all uncomfortable symptoms subsided in two or three days. About the eleventh day after the injury he escaped the vigilance of his mother, went to the door, took cold, and had a return of the same unfavorable symptoms, and in addition great thirst and profuse sweating; he also complained that pressure on the plantar surface of his feet gave great pain in his head. There was partial anæsthesia of both feet, but on pressure there was a sensation of "numbness and pricking;" the same pricking pain extended to the lumbar region, where it was severe; thence to the head, in the region of the wound. I once more opened the wound by a probe, reapplied a poultice, which was followed by hot fomentations of infusion of hops, gave the calomel and chlorate of potash, well comminuted with sugar, in small and repeated doses,—the plan which I usually adopt in meningitis,—and in a short time convalescence became fully established.

CASE III. A few years since I was called to a neighboring town to visit a young man who fell from the high beams of a barn, a distance of about eighteen feet, and struck his head upon a plank floor. The patient was in a state of profound coma; a loud call was unheeded, nor could his sleep be disturbed by any ordinary means. Respiration was slow, without stertor or puffing of the corners of the mouth. There was no voluntary motion, no facial paralysis, no hæmorrhage from the ear or nose. The symptoms indicated a violent concussion. On the right parietal boss was observed a not very prominent tumor, with effusion into the cellular tissue in the immediate region. I could discover no fracture or indication of depression. As the symptoms were imminent, and I was not able to make a satisfactory diagnosis, I determined to explore the tumor. On making an incision to the bone, I discovered a linear fracture, which I traced anteriorly to the os frontis, and posteriorly as far as I thought best to follow it. At the greatest convexity of the parietal bone was a comminution hardly more than a fourth of an inch in diameter. The minute fragments were scarcely depressed, and seemed impacted. With care and patience I succeeded in displacing a fragment the size of a pin's head, which proved the key to the position, and the remaining minute fragments being detached and removed, the opening in the inner plate was observed to be much larger. In my endeavors to extract a fragment, I lifted the whole side of the head, showing that the fracture must have extended half-way or more around the vault. A free opening to the dura mater having thus been

made, and the opening cleared of clots, a continuous stream of blood flowed from the wound, amounting to eight or ten ounces by estimate. The hæmorrhage continued for some hours, threatening a fatal result. The probe indicated an extensive separation of the dura mater, which seemed intact. I had the head placed on the injured side, to facilitate the escape of fluids, and after some hours the hæmorrhage ceased, consciousness returned, the patient made a good recovery, and no permanent injury was observed.

In this case the symptoms of concussion masked those of compression. The lucid interval which marks the subsidence of concussion and disappears on progressive pressure, the pathognomonic symptom of hæmorrhage, was wanting here. The opening, although small, proved sufficient for all purposes, and the shock and danger of trephining were avoided.

The results of external violence to the head depend much upon the thickness, elasticity, and density of the skull. Professor Gross speaks of one in his possession, averaging half an inch in thickness, hard as ivory, and with scarcely a trace of a suture. Such a skull could hardly be crushed by any force which might be brought to bear upon it. I have one of an adult, only three sixteenths of an inch in thickness, and with no perceptible diploë. Others are hardly a line in thickness, and exceedingly brittle, although this property is not peculiar to thin skulls.

The elasticity of the skull can be easily demonstrated by throwing a fresh one upon the floor and observing the rebound. Owing to this physical condition we have local contusions of the brain without fracture of the skull. As an illustration I will cite the case of a woman found dead from violence. The commonwealth requested me to make an autopsy. I found upon the scalp seven contused wounds, pretty evenly distributed over the sides and vault of the head. In no place was the skull exposed, nor did the injuries seem severe. Upon removing the calvarium I observed seven well-defined patches of extravasated blood under the arachnoid, each exactly corresponding to a wound upon the scalp, but larger in extent. The gyral spaces were filled with clotted blood, the convolutions were contused, and the pia mater more or less broken up. In this case the blow was transferred directly to the brain, producing fatal lesions without fracture of the skull, and but slight injury to the hairy scalp. Death evidently had not been *immediate*, but how long the victim had lived after the injuries could not be known.

At the same time and place, and probably by the same person, animated by the same diabolical purpose, and with the same instrument, a sister came to her death by blows. All the bones in the right side and base of the skull were extensively fractured, and some of them were much displaced; yet hardly a trace of injury was observed in the sub-

stance of the brain. The force of the blows had been spent upon the skull alone. The appearances indicated that death was instantaneous. I attribute the contrast in the traumatic lesions in these two cases to the opposite properties of the skulls.

The night following the battle of Antietam, the regiment to which I was attached lay down to sleep in the road. A squadron of cavalry, unaware of our position, charged over us. A sleeping soldier was struck near the vertex by the shoe of a horse, and received a punctured wound, in which the bone was depressed, just the size and shape of the calk. As it was a well-marked contused fracture, although signs of compression were wanting, it was thought best to operate, and I applied the trephine. The inner plate was badly splintered, and a single fragment was detected by a probe and removed from between the dura mater and bone, a point a short distance from the seat of injury. There was no hæmorrhage, nor were the membranes or other tissues wounded. The wound was closed and the patient removed to the general hospital in a comfortable condition. I have been unable to trace the subsequent history of the case, but the records at the adjutant-general's office show no death from wounds of the head in that regiment during that period.

In the cases of contused fractures cited, there has been one condition uniformly present, namely: the inner table has been broken into a number of small fragments, most of them with sharp edges, and in all the cases under my observation one or more pieces have been found a short distance from the seat of injury. This is a practical fact of great value. What then becomes of these fragments if allowed to remain? Professor Gross states that they *never* become encysted. A bullet or other foreign body may become encysted, especially if it has passed the cortical surface of the brain; but fragments resting upon the membranes of the brain are always a source of danger, and often result in fatal meningeal disease. "The lymph effused around spiculæ of bone is incapable of organization, and frequently acts as a foreign body, likely to bring on a train of symptoms ending in death," or, what some might think worse, confirmed epilepsy. For a hundred years and more, authors have generally attributed the much more extensive splintering of the inner table to its greater brittleness; some to the direction of the force and to a variety of other reasons, none of which is the true one. Mr. W. F. Teevan, of London, was the first to demonstrate that it occurred not from the brittleness of the inner plate or any of the reasons usually assigned, but in obedience to a well-known physical law, namely, "that fractures always begin in the line of extension and not that of compression." He showed that violence applied to the inner surface of the skull may produce fracture of the external table only, without any lesion whatever of the inner table; and the same degree of violence applied to the external surface may produce fracture of the internal table

only. This is illustrated by the familiar instance of the cracking of a thin sheet of ice under pressure. Numerous fissures are seen on the under surface, while none are observed on the proximal surface; if its continuity is destroyed the fissure always commences on the distal surface. Mr. Teevan further illustrates by the fact "that in bending a stick across the knee it begins to break at a point opposite to the spot where the knee is applied." In the bent stick the atoms along the proximal curve, at which pressure is made, are brought nearer together or compressed, while the atoms along the distal curve are extended or separated; the rent is finally made *exactly opposite* the point where the greatest pressure is exerted. Thus, in a fracture of the skull by a blow from the outside, the fracture will always first start on the inner side, and, as in the cracking ice, may not extend completely through the wall, thus producing the rare result of a fracture of one plate only, and that of the plate opposite the spot where the blow was struck, whether it was from within or from without. Mr. Teevan states that he has no difficulty in producing, by slight blows with a hammer on the outer or inner surface of the calvaria, fissures or stellated fractures of either table at will.

In cases of suspected fracture of the inner table only, Stromeier advises that the part be explored by carefully percussing the cranium with a silver probe. As the probe enters the region of fracture the sound given is of a somewhat higher pitch.

Dr. Otis, in his *Surgical History of the War*, states that of twenty known cases of fracture of the inner table only, but one survived, and in this instance there was necrosis of the outer table, which released the fragments within, the whole process of cure having been completed in a little more than six months.

You will observe that the three cases first cited were all well-marked instances of compression from extravasation of blood within the cranium and between the dura mater and bone. In the first, it was demonstrated that the hæmorrhage proceeded from the anterior branch of the middle meningeal artery. The fragment extracted had a sharp edge, which was in immediate contact with the artery when the scalp was removed, and no doubt was the cause of the arterial hæmorrhage. The feeble, slow, and soft pulse, great pallor of countenance, and imperfect respiration are the usual prelude to death by compression, which is generally sudden. Mr. Hutchinson records a similar case of a lad who, while under consideration, with the same class of symptoms, suddenly and without tremor or convulsion died. In the case of the young man who had fallen from the high beams of the barn, death was imminent, as I believe, from hæmorrhage of the posterior branch of the middle meningeal artery, although it is possible that the blood might have been poured out from the numerous small arteries which pass

from the dura mater to the skull. Some two hours had elapsed after the accident before the operation.

In Case II. we have a double fracture. First came the blow from the projecting bolt, making the ordinary contused wound, "the size of a finger's end," with several sharp fragments of the inner plate, one of which doubtless wounded a small branch of the middle meningeal artery; then came the violence from the larger surface, crushing in a plate of bone, the size and shape of which has already been described. In this case we have the slight compression of the displaced bone, which, although quite large, yet in the earlier history of the wound produced no symptoms whatever. Locomotion was not impaired, and there was no disturbance of the functions of the brain. It was only after about an hour that he grew peevish, with evident symptoms of approaching coma, indicating the somewhat gradual extravasation then going on between the dura mater and bone. The amount of blood (about two ounces) found under the depressed bone has been known in like cases to cause death in about four hours. At the moment of the operation bleeding was still going on, and had there been no relief it might have produced death in even less time.

The cases cited above show the necessity of prompt surgical interference in traumatic hæmorrhage within the skull.

We may now properly inquire what becomes of blood effused under these circumstances if not removed. Prescott Hewett states that small quantities are sometimes absorbed. Larger quantities produce death by squeezing the brain, thus forcing out the arachnoid fluid, leaving the membranes dry and the functions of the brain suspended from anæmia or from inflammatory processes in the encephalon. Dr. S. W. Gross says he has failed, after careful search, to find the history of a single case of effusion between the dura mater and bone where the changes in effused blood have taken the same course as like effusions in other parts of the body. The coagulum usually becomes putrid, thus producing irremediable inflammation of the brain and membranes. Dr. Gross still further states that in fourteen cases in military practice which he had collected, two of which were his own, where the trephine or other operative interference was employed, with the result of fifty-seven per cent. of mortality, he could not ascribe death in a single instance to the operation. The main objection urged against operative interference is the danger from exposure of the dura mater to the air, and consequent inflammatory products; but should this occur there is far more hope of controlling it than when there is no opening for the escape of the secretions. In Case II. well-marked inflammation of the membranes occurred twice, with purulent secretion, but was quickly relieved by ordinary means.

My own observation leads me to the conclusion that in a large per-

centage of contused wounds of the skull the trephine is wholly unnecessary, and I believe it is seldom that minute fragments may not be separated by an awl, chisel, or some other instrument which the peculiarities of the case will suggest at the moment, and the trephine be avoided.

Dr. Holston, U. S. V., strongly recommends the use of a chisel with a projecting blunt tooth, which protects the membranes from the edge of the chisel. The sharp edge will cut cleaner and with less irritation than the saw, the teeth of which tear the tissues and give almost as much shock for every tooth as the chisel and mallet do at every blow.

If we turn to the text-books for aid in making a differential diagnosis in traumatic injuries of the head, we shall be led to great confusion and perplexity. Whatever the statements and conclusions of any one writer may be, they are sure to be contradicted, and the opposite plan advised by another of equal eminence. These varying opinions among the great lights of surgery lead us to the humiliating conclusion that we have as yet no established science in this branch of surgery.

Huguenin, in an article in Ziemssen's *Cyclopædia*, nearly discards all operative interference. He admits the propriety of trephining in cases of hæmorrhage from the *arteria meningea media*, when there is no doubt; that is, "when symptoms of pressure first appear some time after the injury, and steadily increase up to a certain pitch. The symptoms (unilateral paresis) and the nature of the injury must at all events confirm the diagnosis." In the three cases I have presented there was no unilateral paresis, — in one, profound insensibility from the moment of injury, — nor is this symptom, which the author regards as pathognomonic, present in a large percentage of recorded cases.

The orthodox doctrine of unilateral paresis, that the paralysis is always on the opposite side from the lesion, is well combated by Brown-Séquard, who states that he has collected more than two hundred cases where the paralysis is on the same side as the brain lesion.

If we review the cases so clearly and forcibly narrated by Hutchinson, one of the best recent writers upon this subject, we shall find from his own showing that in every instance he waited for an autopsy to confirm his opinion that an operation was required. In two cases this distinguished surgeon finally determined to trephine; but unfortunately both patients died before the operation was begun. In one of his lectures he makes this remarkable statement: "The modern annals of surgery do not, as far as I am aware, contain any cases in which life has been saved by trephining for this state of things," that is, for effusion of blood between bone and *dura mater*. Very different are the conclusions of Dr. Gross, who, reviewing the fourteen cases before alluded to, writes thus: "The teachings, therefore, of these cases lead to the conclusion that, when compression of the brain is dependent

upon the extravasation of blood between the dura mater and the skull, the latter must be opened in order that the clot may be turned out, and that to be of any avail the operation should be practiced at once, since when stupor, convulsions, and hemiplegia arise, after the case has had time to run through the different stages of inflammation, they are due to irremediable suppurative inflammation of the pia mater and arachnoid, or to abscess of the brain, or to a combination of both these conditions."

Here I believe is the secret of the failure of the operation in many cases: it is too late. While the surgeon waits for more urgent symptoms, he waits till Death steps in before him.

SCARLATINA VERSUS DISINFECTION.

BY JOHN L. SULLIVAN, M. D., MALDEN.

THE following history illustrates the difficulty of extinguishing the contagion of scarlet fever, as well as that of determining the period when the disease ceases to be communicable by the patient or his surroundings:—

On November 1, 1876, a girl, aged six years, one of a family of three children, during the temporary absence of her elder sister and brother, was seized with scarlatina anginosa. The case terminated favorably after running a severe course. On the 28th the child seemed perfectly well. Desquamation had ceased; her skin had been cleansed as thoroughly as it could be by repeated ablutions of warm water and soap, and the liberal use of vinegar and carbolic acid solution.

In the mean time the absentees had held no communication with home, and, as a further precaution for their safety, it was deemed advisable to try to disinfect the premises, and possibly to expel the contagion before their return. This was carefully done under my immediate supervision. One after another all the apartments of the dwelling, including the halls, were filled with fumes of burning sulphur, as dense as could be generated by the rapid combustion of large quantities of that substance moistened with alcohol, and in this state were kept closed for several hours. Doors and windows were then thrown wide open and the air allowed to sweep through the house until the sulphurous smell had been dissipated. Beds, blankets, and other woolen fabrics that had been worn or used by the patient or her attendants were spread out in one of the closed rooms and exposed for a long time to the action of the sulphurous vapor and afterwards for more than twenty-four hours to that of the out-door air, at a season when the weather was boisterous. All washable articles were "scalded out" in boiling water, washed in strong soap-suds, and dried on the clothes-line in an

adjoining yard. Lastly, the walls and ceiling of the chamber occupied by the patient were whitewashed. In short, no pains were spared to insure the complete purification of every nook and corner of the domicile, as well as of everything it contained.

On December 1st, thirty-one days from the date of the appearance of the disease, one of the absent children, the eldest, also a daughter, returned home, owing to unforeseen circumstances, a fortnight earlier than had been expected. She was strictly prohibited from entering either the story of the house or the room in which her sister had been confined; and although in the day-time the children were suffered to play together, at night they were separated. December 15th, just a fortnight after her return, she came down with scarlet fever of a less severe type than the previous case. After her recovery, which was speedy, the same processes of cleansing, fumigation, etc., were repeated with, if possible, greater thoroughness than before.

January 14th, thirty days from the date of the second outbreak, the third and youngest child was brought back. Nine days later, on the 23d of the same month, he was attacked with greater severity than either of the others, but after a dangerous and protracted illness he, too, recovered.

The occurrence, shortly afterwards, of a fourth and last case, the patient being the mother of the family, may be mentioned, although having no direct bearing upon the subject of this article.

RECENT PROGRESS IN THE TREATMENT OF DISEASES OF CHILDREN.¹

BY D. H. HAYDEN, M. D.

*On the Treatment of Chorea.*²—In the last volume of the *Medico-Chirurgical Transactions* the author³ gave the results of a series of observations upon the morbid anatomy of chorea, the inference drawn from them being that the disorder is not a mere accident of embolism; that the cardiac disturbance so often associated with the nervous lesion is always of later date and obviously secondary to it; and that the disease has its rise in the nervous centres, where the first visible change is vascular distention, closely followed by extravasation and by the several tissue changes which congestion and extravasation produce. The conclusion that chorea is primarily a nervous and not a vascular disorder is consistent with its relationship to other neuroses, its occurrence in the families of the epileptic and insane, and the proclivity to it which is displayed by children of nervous mobility, such as are bright, sensitive,

¹ Concluded from page 131.

² *Lancet*, January 6, 1877.

³ W. H. Dickinson, M. D.

imaginative, and timid. In a large proportion, too, certainly in not less than a fourth, the origin of the disease is immediately traceable to some mental emotion, commonly fright, without the coöperation or concurrence of any other circumstance to which the attack could be attributed. The other great cause of chorea, which acts with about the same frequency as fright, is rheumatism. Of seventy cases of the disease at the Hospital for Sick Children rheumatism was found to be involved in the antecedents of twenty-eight, and in half as many it was unequivocally associated with the chorea as its cause. Thus chorea is to be ascribed to two causes so different in their nature that we can but wonder at their producing the same result. Rheumatism, when a cause, is almost always accompanied with endocarditis, and hence has arisen the theory of this disease being one of the results of embolism,—irritation of the nervous centres by particles of fibrine swept into their vessels from the diseased valve. This ingenious theory, applying only to rheumatic chorea, is unsuited to explain the disease when arising under other circumstances, and is inconsistent with both pathological and clinical observation.

With regard to treatment, it might be conceived that if there existed shreds of fibrine in the cerebral or spinal arteries, the result of embolism, there would be hope of dissolving or acting upon them by agents introduced into the blood. We might hope much from alkalies, which the author believes control the endocarditis of rheumatism, and which might reasonably be expected to modify its embolic consequences. These are useless in chorea. This disease must therefore be dealt with neurotically, though constitutional treatment is often more effectual than special. In severe and acute cases, where the patient is worn out by incessant movement and want of sleep, liberal feeding, stimulants, and the means of procuring timely slumber—the bromides, opium, or chloral—may enable the patient to tide over a period of mortal peril. Next comes the use of bodily restraint. The violent and erratic movements of chorea appear to be one mode at least by which the exhausting effect of the disease is produced, and the improvement which follows upon mechanical control suffices to show that some of that effect is due to the actual movement, while, perhaps, some may be attributed to the muscular attempt which the bandage makes futile but does not arrest. Restraint is important also in preventing the excoriation and sores which the jactitation causes, and which may contribute perceptibly to the typhoid prostration which is one of the worst phases of the disease. A sufficient measure of controlment may be obtained, sometimes by merely tying the feet together and firmly fixing the upper sheet. A more effective method is an embankment of pillows along each side of the bed, closely adapted to the patient, who lies in the trough between. In extreme cases it may be necessary to secure the

limbs with splints. A well-padded splint, such as is used in hip disease, reaching from the axilla to the ankle, is placed along each side of the body, with the arm bandaged to the outer and the leg to the inner aspect. The child, except that he can still make faces, has little more power of movement than a mummy, and resembles a Swiss baby within its encasement, which can move nothing but the eyes. Anything which causes alarm or distress is to be scrupulously avoided, but the agitation of the limbs is in itself a source of great discomfort, and any gentle means of preventing it is usually acceptable to the patient.

In less severe cases mere rest in bed will do much. Chorea will almost always improve up to a certain point, sometimes to recovery, under the simple influences of rest and time. These, and now and then a purge, may be all that is needed. Constipation belongs to several nervous disorders of which chorea is one, perhaps rather a result than a cause; nevertheless purging does distinct good, and sometimes is the only medicinal process needed.

In the acuter forms of the disease the author gives the first place to sulphate of zinc. Oxide of zinc stands next in the order of efficiency. To be of use it must be taken in large doses. A grain of the sulphate may be given three times a day, or in very severe cases more often, and a grain added to each dose every day until the dose amounts to between fourteen and twenty-six grains. Thus administered and sufficiently diluted it causes no sickness nor any prominent effect but the abatement of the jactitation and grimace. A scruple or rather less is commonly sufficient, but much more may be given. In an exceptionally severe case, of which the subject was a girl of seven, a dose was given which at last reached forty-five grains three times a day, or one hundred and thirty-five grains in the twenty-four hours, and with apparent advantage. Under this the child became able to talk, feed herself, and walk, none of which she could do before. The larger amount passes off by the bowels, and probably but a small proportion is absorbed, though from the greater effect of large doses upon the nervous system than of small it is probable that the quantity taken up bears some relation to the quantity swallowed. It may be said that a course of treatment which lasts necessarily a fortnight secures *time* as its ally, in acute diseases no unimportant auxiliary. But chorea is a disorder of indefinite duration; the zinc may be begun at any period until the acute form has merged into the chronic, and the author has often been able to assure himself that recovery dated from the beginning of the remedy and not from the beginning of the disease. An early effect of the zinc has been recognized in a peculiar brightness and clearness of complexion, to be succeeded, if the drug be long continued, by marked anæmia. It is hence occasionally advisable to associate with the zinc an unaugmenting dose of sulphate of iron. With the

subsidence of the chorea the zinc may be gradually withdrawn and the iron at last continued alone or with the addition of quinine. Another salt of zinc, the valerianate, is of especial use: it is suited to cases of a type not sufficiently acute to require the sulphate, and to those by no means infrequent instances in which the attack has with it some of the characters of hysteria.

Next to the salts of zinc, and often to be preferred to them, come those of iron. Where there is evident anæmia, iron in some shape should be given from the first. Zinc does best with florid children, iron with pallid; zinc when the symptoms are acute, iron when they are chronic. Good results have been met with from the syrup of the bromide of iron; and the valerianate, like that of zinc, may occasionally be resorted to. In the more lasting and slighter forms, where perhaps an occasional twitch or grimace or some awkwardness in the limbs is the only sign of the disease, arsenic, as a nerve tonic, in small and long-continued doses, is of service, and a similar statement may be somewhat more emphatically made with regard to strychnia, particularly if this alkaloid be given together with iron. Thus for the slighter and more lasting forms of the disorder, the pharmaceutical remedies are iron, arsenic, and strychnia; often iron together with one of the others. Strychnia, like iron, may be advantageously given as a bromide in the liquor strychnia bromidi.

The lingering remains of chorea call as a rule for general tonics, and among such perhaps the most effective is change of air; there is, indeed, no disorder in which a temporary exchange of town for the country or the sea is more decidedly curative. Where chorea is much mixed with hysteria, as we see sometimes in developing girls, the treatment must be correspondingly modified. Electricity and shower-baths are sometimes in these circumstances useful adjuncts, though with simple chorea such agitating measures could scarcely fail to be mischievous.

Regulated movements, as drilling or dancing, have been recommended. The author has often suggested dancing, and thought that it did good, the influence exerted by rhythmical sounds upon the voluntary muscles being very striking. The author's experience with belladonna, calabar bean, conia, and codeia has never been such that he was able to assure himself that the patients would not have done equally well without them.

*Contributions to the Therapeutics of Children's Diseases.*¹ — Professor Abelin, of Stockholm, gives in this article the results of his experience in the use of certain remedies in the treatment of children.

The author employed salicylic acid in the foundling wards of the General Hospital, Stockholm, since July, 1875. This remedy was specially given in cases of diarrhœa, where the stools were very offen-

¹ Schmidt's Jahrbuch, No. 2, 1877.

sive and putrid, in doses of three quarters of a grain to a grain and a half several times daily in an emulsion. No other effect was ever obtained (and he had used it in a very great number of cases) than perhaps a slight diminution of the offensive odor of the stools, and it is far inferior to many other remedies. In the greater number of cases in which it was used there ensued severe inflammation of the kidneys, followed not seldom by anæmia and death. In addition there was invariably more or less collapse.

As an antipyretic, salicylic acid produces more decided effects, but it is not well tolerated by the stomach when given in the large doses required to bring down the temperature one to two degrees. Moreover, the remedy exercises no appreciable influence upon the course and symptoms of the disease. In doses of fifteen grains, salicylic acid acts as a violent poison in infants. By such a dose there is a rapid falling of the temperature three degrees, or even more; but at the same time there is produced a general and fatal collapse. Such a case the author reports in full. When by smaller doses the temperature is reduced in febrile cases, as a rule the reduction is only temporary, the temperature returning after a short time to its former height; and the author never saw any effect produced by it upon the course or symptoms of the disease. Externally, Professor Abelin had applied salicylic acid partly in solution in the treatment of ulcers and erysipelas, partly in the form of ointment (one part salicylic acid, three parts alcohol, fifteen to thirty parts fat) in chronic skin diseases, especially in eczema impetiginodes of the face and head. Although the number of cases was too small to speak decidedly as to the merits of the remedy in such cases, yet his experience, as far as it went, was that it was of no value at all, except that in the cases of eczema capitis the eruption disappeared as long as the salve was used, but reappeared as soon as it was discontinued.

According to Professor Abelin, therefore, salicylic acid can be administered only to a very limited extent in the treatment of children's diseases, and for the reduction of temperature other remedies less dangerous should be substituted.

Salicylate of soda had proved a more efficient remedy. The author had employed it in solution in the proportion of one to two parts of the salt to thirty parts of water and three parts of extract of licorice, giving, according to the age of the child, three or four teaspoonfuls in the course of two to three hours. The remedy in this way is easy of administration, and always after the dose reduces the temperature from one to three degrees. The result is, however, always but temporary, and to hold the temperature down the medicine must be given in this manner two or three times daily. The medicine, too, seems to lose its effects when given for a long time in the same individual. This remedy, according to Professor Abelin's experience, exercises no more in-

fluence upon the course of the disease than the salicylic acid; but its depressing effect is much less and only of a transitory character, and as with salicylic acid, in many of the cases where it is used albuminuria is observed after its employment.

Carbolic acid was tried by Professor Abelin in the form of compresses and by subcutaneous injection in erysipelas migrans of young infants. This method of treatment was found to be without effect, and since a case of poisoning with fatal results happened to him he has abandoned it.

Chloral hydrate has proved in the author's hands a most valuable remedy, not only for purposes of procuring sleep and relieving pain, but also in convulsive diseases, as trismus and tetanus neonatorum. Most cases of idiopathic convulsions in Professor Abelin's experience can be cured by chloral hydrate. Symptomatic convulsions can at least be much relieved, and by this remedy an outbreak can be prevented. Many cases of violent and obstinate vomiting, where other remedies had failed, were checked by the use of this remedy in the form of clysters. When possible, Professor Abelin has always given chloral hydrate internally, and uses clysters only when the former method is impracticable. The dose for young infants is three to four grains; when two to three months old, six grains; when four to six months old, seven and one half grains; when six months to one year old, nine grains; when between one and two years of age, eleven to fifteen grains; when between two and four years, fifteen grains; when between four and eight years, fifteen to twenty-two and five tenths grains, when between eight and fourteen years, twenty-two to twenty-six grains. Professor Abelin has never seen any ill effects from the use of this medicine.

Lukewarm baths in diseases accompanied by high temperature Professor Abelin has employed for sucklings as well as for older children. In cases of acute gastro-intestinal catarrh, with marked increase of temperature, the antipyretic action of these baths in his hands has been a remarkably quick and certain one, with which no other remedy could be compared. Professor Abelin has convinced himself not only that they can be given without any ill effects, but that also they are recommendable as a method of treatment conveniently and easily administered. As administered by him the duration of the bath is from ten to fifteen minutes, the temperature at the beginning being 93° to 95° F., and gradually reduced by the addition of cold water to 90°.

Professor Abelin speaks in high terms of the mineral waters of Rönneby, which contain iron, as being admirably suited for infants. It is necessary to give them in small doses, owing to the large proportion of their solid ingredients. They are rich in sulphates, particularly in sulphate of iron and of alumina. These waters have a very salutary effect upon the increased and altered secretion of the intestinal canal,

acting at the same time as a tonic. It is an excellent remedy in chronic intestinal catarrh in infants, and can be given alone or with milk. The dose for sucklings is a teaspoonful, for children from one to four years of age a dessertspoonful, or even more. As a rule, there is decided improvement after eight or fourteen days, and generally complete recovery takes place in four or five weeks. Attention to diet is also necessary. The use of these waters does not forbid the simultaneous employment of other remedies that may be indicated, as cod-liver oil, etc.

PROCEEDINGS OF THE NEW ENGLAND PSYCHOLOGICAL SOCIETY.

B. D. EASTMAN, M. D., SECRETARY.

THE New England Psychological Society held its quarterly meeting at Worcester, June 26th.

DR. TYLER, the president for the ensuing year, read a paper on Melancholia, selecting this subject because of the great frequency of cases of this form of mental disease. After describing the several stages and varieties of melancholia, he remarked that suicidal impulse was the logical and almost invariable sequence of morbid depression. He wished to convey this belief in the strongest language of which he was capable. No denial on the part of patient or friends should be taken as evidence of its non-existence; that the suggestion, if not the impulse, was there, and should not be disregarded. He gave repeated instances of unexpected suicides and of unusual methods of suicide indicating persistency, desperation, and insensibility to suffering.

DR. TYLER'S address excited an animated discussion of the question whether suicidal impulse is a necessary and essential part of melancholia.

DR. EARLE had not been in the habit of so considering it.

DR. STEARNS thought cases were certainly met with where no evidence of suicidal impulse could be detected. Suicide also occurred sometimes in patients whose state of feeling was habitually cheerful. These acted under a belief in divine direction sometimes, or from some inexplicable insane motive.

DR. WALKER agreed with Dr. Tyler that suicide was the logical sequence of depression, and the tendency, he thought, existed in most cases, though it might be concealed or repressed. He gave instances of the astonishment on the part of friends when the confession of intended or attempted suicide was elicited. He believed there were very few cases in which the suggestion did not occur.

DR. GODDING always warned friends that simple melancholia might at any time change to suicidal. He thought that a great safeguard against suicide was the constant presentation of the hope of recovery, and had found acute melancholia less curable than acute mania; but when both have become chronic, melancholia gives most recoveries.

DR. FISHER spoke of the great prevalence of suicide in Boston. He thought that an epidemic, born of the hard times and business reverses, prevailed quite extensively in large cities. Paris at present furnishes six suicides

daily. He believed the suicidal impulse to be an almost constant symptom in melancholia, as much so as diarrhoea in typhoid fever. It is not the earliest symptom, and some cases may recover before it is developed; but it is still an early symptom, and quite constant in a fully developed case. It should always be presumed to exist. The important question in mild forms of melancholia, seen oftenest outside of the hospital, is how to protect the patient without exciting to activity, by fixing the attention on it, the very symptom it is desirable to suppress.

DR. EARLE said he had made a collection of a hundred cases of suicides, taken from three or four newspapers, in the last five months.

DR. EASTMAN spoke of the evil results growing out of newspaper accounts of suicides, in view of the well-known contagious effect of such examples.

DR. BANCROFT had noticed that the indications relied on by friends as showing absence of suicidal tendencies were untrustworthy. He alluded particularly to the patient's apprehension of death as presenting no safeguard against suicide.

An hour was spent in business discussions, and at the evening session DR. GODDING read an exceedingly interesting memoir of a boy sent to Taunton Hospital two or three years ago, who had shot a schoolmate, and was suspected of being insane. The history of this boy's moral insensibility, of his duplicity, his frequent ingenious escapes, his travels, his repentant letters and voluntary returns, his parole unbroken for a year, his last elopement and final return from Montreal, only to be found killed by his own hand the next morning, made an account of extreme interest. (This paper will probably be published in the *American Journal of Insanity*.)

Dr. Godding was satisfied of the boy's insanity, but declined to give it a name. There was admitted self-abuse, with paroxysms of excitement and destructive fury, which the boy ascribed directly to previous increase of the habit. There were real or pretended lapses of consciousness, but no epilepsy could be affirmed in the case. The boy was an excellent scholar, wrote voluminous letters with Latin quotations, and no intellectual aberration occurred even in his periods of excitement.

The discussion of this paper was desultory, consisting of questions tending to elucidate the case.

DR. FISHER suggested its resemblance to that of Jesse Pomeroy, even the letters of each being in the same inflated style.

HOMŒOPATHY.

THE time-honored discussion of homœopathy has been revived once more, owing to the action of one of that sect in London, lately, both by the daily papers and the medical journals. The former have assumed their customary lofty tone, as of the parent to erring children, and, as usual, have failed to get at the merits of the case or even to perceive the true point at issue. The position taken is ordinarily somewhat thus: a controversy is supposed to exist between two "schools" of medicine; one, the old and conservative party, is

struggling against the innovations of a new school, whose doctrines have considerably modified the practice previously in vogue, but whose views are nevertheless ignored, and who is constantly abused and misrepresented by a rival who feels the influence of its growing power. Naturally enough the so-called "regular" medical profession is counseled to give the other "school" a chance, to admit it to fellowship on equal terms in the true spirit of progress, and any unwillingness on its part to accept this advice is looked upon as evidence of an innate illiberality and petty jealousy, which, like other such absurd notions as medical etiquette, seems somehow to have been inoculated into the physician from the moment he takes his degree, and completely to infect his moral system from that time forward, no matter how wide and liberal may have been the surroundings of his previous life.

To those who hold these views, which have been launched with great persistence against the Massachusetts Medical Society, we would point out the attitude assumed towards this and kindred matters by physicians of this State, and indeed by all, everywhere, worthy of the name.

Owing to the power exerted by faith in matters medical as well as spiritual, the science of medicine has, from its earliest history, been a prey to those adventurers who greedily take advantage of the opportunity which it gives them to open their way by an easy path to fortune. The strongest instinct of the true physician has always been that which holds him free from any suspicion of connivance at the practices of men who use their power unscrupulously. Again, the uncertainties of medical practice are such, and the improvements which science has made during the present century are so great, that we are justified in hoping for greater light in the future. It behooves us, therefore, to place the student in possession of such facts as the progress of the day enables us to, leaving him entirely free to apply them in practice in such a manner as his judgment dictates. He is at liberty to use any drug or any dose that, in his opinion, will help his patient. It is by such liberty of action in the past that individual enterprise has been able to contribute largely to our knowledge of disease and its treatment. To hamper action by making obstructive laws is to fly into the face of experience and to bar the way to future change and progress.

Any system, however plausible, which does not allow this freedom of action is not, then, in accordance with the spirit of the age, and entails upon its supporters the suspicion of acting from selfish motives rather than from a love of science and improvement. This suspicion is greatly strengthened by the observation that affluence and power attend the efforts of its votaries who would otherwise suffer the fate of mediocre men, but who thus skillfully handicap their rivals in the race for fortune. Believing, as we do, that homœopathy is not founded upon a scientific but rather upon a lucrative basis, we do not feel ourselves called upon to accord it that recognition which would be extended cheerfully to a legitimate enterprise, content to give us facts unhampered by theories which base their support upon the applause of a public incapable of judging their merits rather than upon the indorsement of scientific men.

MEDICAL NOTES.

— *The Practitioner* for June, 1877, contains a paper by Dr. Debout d'Es-trées on the causes of gravel. Of 1028 patients affected with uric-acid gravel the author was able to ascertain the principal cause of the disease in 528 cases. These causes were: hereditary in 191 cases; disorderly digestion in 160; excess of food in 101; sedentary life, want of exercise in 95; violent moral emotions in 35. With regard to the effect of some vegetables, namely, asparagus, sorrel, tomatoes, and green beans, in the production of uric acid, he found the absorption of asparagus in some twenty per cent. of the cases to be followed by more or less violent pain in the loins, and sometimes by nephritic colic. He thinks asparagus does not produce uric acid, but that it determines temporary congestion in a kidney which already contains some red sand, facilitates the agglomeration of it, and may produce the formation of gravel.

Sorrel, green beans, and tomatoes act differently. They less frequently produce pain in the loins, but their absorption is followed by an emission of uric acid.

The causes which produce oxalic gravel are much the same as those producing uric-acid gravel, merely adding the absorption of victuals containing oxalate of lime, — sorrel and tomatoes in particular.

There is a primary and a secondary phosphatic gravel: the former is principally composed of phosphate of lime, with carbonate-of-lime urates and alkaline phosphates; the latter consists especially of ammoniaco-magnesian phosphate.

The primitive phosphatic gravel is especially met with: (1.) Where persons being anæmic, in consequence of a real mal-assimilation, their organic materials allow the mineral matter of their economy to deposit. (2.) It may be met with in individuals affected by a lesion of the nervous system presiding over the eliminating functions of the kidney. (3.) Exceptionally it is met with amongst patients suffering from the uric diathesis, where red sand and acid urine alternate suddenly with a deposit of phosphate of lime and carbonate of lime in neutral alkaline urine. Phosphate of lime may occur in acid urine, but then the urine is generally less acid than normal urine.

Secondary phosphatic gravel is produced: (1.) When there is fermentation of the urine before its evacuation. (2.) When the abuse of energetic alkalines or an exclusively vegetable diet has made the urine alkaline.

The ætiology of carbonate-of-lime gravel is obscure.

Attacks of nephritic colic differ according to the varieties of gravel.

With uric-acid gravel the pain caused by the kidney gravel is not well localized by the patient. It often settles in the side, sometimes in the lower part of the abdomen, which explains the errors of diagnosis easily committed under similar circumstances, hæmaturia being the exception rather than the rule.

In the oxalate-of-lime gravel the symptoms are the same, except that there is always hæmaturia.

In phosphatic kidney gravel there is no hæmaturia, the pains are less excruciating and the fits less acute, but they are of much longer duration.

— Under the title Pneumonic Fever, Dr. Austin Flint communicates to *The Medical Record* of July 14, 1877, a paper giving his reasons for considering acute pneumonia an essential fever, and not purely a local inflammation. The grounds for this supposition relate to the morbid anatomy, etiology, clinical history, and treatment of the disease. The points regarding its morbid anatomy are the quantity of the exudation and its probable derivation from the blood in the branches of the pulmonary artery; the removal of the exudation by absorption; the extension over a lobe by degrees; the invasion successively of a second and third lobe in a certain proportion of cases; and the laws of the disease to invade the lower lobes of the lungs. *Ætiology* furnishes in support of the doctrine advanced, first; that the local affection is never produced by local causes; and, second, that all the knowledge which we at present have of the causation is in favor of its being constitutional. The clinical history of the disease shows a chill, a quickly rising and often intense fever, which, during the course of the disease as represented by temperature and other symptoms, has no uniform relation with the pulmonary affection.

Certain drugs — the sulphate of quinine in particular, given in large doses, from twenty to forty grains daily — seem to exert a curative effect on the disease from a controlling influence on the pyrexia. In conclusion, Dr. Flint defines the disease as follows: —

“It is a fever characterized anatomically by an abundant exudative deposit in the air-vesicles of a single lobe, or of two, and sometimes three, lobes of the lungs, with, in general, circumscribed bronchitis and dry pleurisy. It is a fever which rapidly reaches its maximum of intensity, and has a short career, the duration averaging about eleven days. It proves fatal chiefly in consequence of associated diseases, complications, or accidents, and the mode of dying is by asthenia. It is non-communicable, and depends on a cause, or on causes, specific in character, the nature of which is at present unknown, but having relations to season and climate. It sometimes aborts spontaneously, and it is in some instances arrested by remedies. If not arrested, it may be favorably modified, its duration abridged, and the danger to life diminished by treatment addressed, not to the pulmonary affection, but to the fever.”

— Vaccination is said by *The Lancet* to be greatly appreciated by the Chinese, especially in the southern part of the empire, and in the southern part of the Island of Formosa. The rule in China has been inoculation, but in the parts we have mentioned vaccination is preferred, and it is so prized that the people are willing to pay for it. Chinese medical students that have been trained by Dr. P. Manson, of Amoy, are frequently called upon to vaccinate Chinese children. Some of these, with others that have had no special training, find it a profitable employment to go round the country from village to village for the simple purpose of vaccinating. They charge from fifty cents to one dollar, and it is said that some of them gain enough from a few months' practice to support them for the rest of the year. Such intelligent appreciation of the value of an innovation on the part of a very conservative people is interesting, and may well be taken as a rebuke by the enemies of vaccination in civilized countries, who hail with delight any stray case which seems to detract from the credit of the operation, and have not eyes to see that it saves millions of lives.

— In a recent exchange, Dr. Gueneau de Mussy recommends compression of the thorax after thoracentesis. The blood-vessels, which are rendered impassable by the pressure of the effusion on the compressed lung, become quickly filled again after the thoracentesis. The sudden change in the mechanical conditions of the pulmonary circulation may have certain anomalies in the functions of these organs as a result. The rapid congestion shows itself by dyspnoea and a sort of whooping-cough, which may lead, if the congestion is great, to a sero-albuminous secretion which is the premonitory symptom of speedy death. It has been advised in very great effusions not to empty the pleural sac at once, but to make several successive punctures, in order to forestall evil consequences. Gueneau de Mussy recommends for the same purpose compression of the thorax wall, while the fluid is flowing off, by means of the two hands of an assistant standing opposite the affected side and compressing the chest. A bandage closely applied supplies the place of the hands after the operation. The above manœuvre practiced by the author was always accompanied by a good result, and the above-named symptoms did not appear at all or quickly disappeared on making use of it.

BOSTON LYING-IN HOSPITAL.

CASES OF DR. W. L. RICHARDSON.

[REPORTED BY W. O. MOSELEY, HOUSE PHYSICIAN.]

Fatal Case of Puerperal Fever. — M. H., twenty-five years of age, primipara, entered the Boston Lying-in Hospital May 12th, at five P. M., complaining of slight uterine pains. The os was soft, dilatable, readily admitting the tip of the finger. The fetal heart was heard two inches to the left and below the umbilicus, 132. During the night the patient had occasional and feeble pains, no progress whatever being made in the dilatation of the os. At nine o'clock on the following day (13th) three fifteen-grain doses of the hydrate of chloral were given at intervals of twenty minutes, with the effect of quieting the patient, who, now freed from pains, slept until late in the afternoon, when the pains recommenced, and continued through the evening and night at intervals of about fifteen minutes. The pains were at no time strong. The first stage of labor was completed at 4.50 A. M. The pains continued at regular intervals, but feeble, and the head having reached the perinæum about nine o'clock made no further progress.

At 11.25 the patient was catheterized. Considerable difficulty was experienced in passing the catheter, owing to the presence of a vascular tumor which completely occluded the orifice of the urethra. Subsequently the patient stated that she had suffered for many months from painful micturition. She was then etherized, and delivered with forceps at 11.35. The placenta was at once removed by Credé's method, and one drachm of the fluid extract of ergot was given. The uterus contracted firmly. The patient recovered well from the ether, and soon fell asleep.

In the afternoon there was considerable flowing, which was, however, checked by three doses of twenty drops of the fluid extract of ergot, given with two hours' interval. In the evening the pulse was 104; temperature 100.6°.

May 15th. A. M., pulse 120; temperature 102.4°. P. M., pulse 96; temperature 104°.

At the evening visit the patient complained of some abdominal tenderness, which was relieved by a poultice. There was slight nausea in the afternoon. The urine was drawn with the catheter night and morning.

May 16th. Pulse 96; temperature 102.4°. In the evening, pulse 132; temperature 103.2°. Uterus decreasing in size. Slight abdominal pain. Some tympanites and tenderness. Lochia scanty. Quinine ordered, two grains every four hours.

May 17th. Pulse 120; temperature 102.6°. In the evening, pulse 128; temperature 104°. Still some tympanites. The abdomen was, however, tender only on deep pressure. Lochia scanty. Diarrhoea in the afternoon.

May 18th. Pulse 128; temperature 103°. In the evening, pulse 140; temperature 102.2°. Eighteen dejections last night, yellow and offensive. No blood. Some milk. Lochia more abundant, but less offensive.

May 19th. Pulse 128; temperature 102.6°. In the evening, pulse 160; temperature 103.4°. Diarrhoea ceased. One dejection last night. Reported to have slept well. No abdominal pain. Urine offensive. No milk. Mind wandering. Was isolated. Separate nurses engaged, and stimulants given. Continued in this condition all day, but answered rationally when spoken to. Decubitus dorsal. Took readily all the nourishment given. From eight P. M. patient commenced to fail rapidly, respiration grew gasping, and extremities cold and clammy. Tympanites, but no abdominal tenderness or pain. Low, muttering delirium was succeeded by unconsciousness after ten P. M. Brandy was given at short intervals, both by the mouth and subcutaneously. Ether was also injected hypodermically from time to time.

At two A. M. on the 21st the patient commenced vomiting a very dark, offensive liquid, and died somewhat suddenly during one of the attacks, apparently from asphyxia, at 2.45 A. M.

Autopsy, by Dr. Fitz, thirty hours after death. Veins in dependent part of body represented by livid lines. Mouth, nose, and lower part of face and neck covered with a reddish scum. Abdomen largely distended and tympanitic. Head not opened. Pericardium contained a moderate amount of watery fluid, stained with blood pigment. Heart much altered by post-mortem stains, and no opinion could be formed as to condition of muscular fibre. Valves and cavities apparently normal. Right side of heart and pulmonary artery contained post-mortem clots. Both pleural cavities contained some six ounces of watery fluid stained with blood pigment. The pleural surfaces over lower lobe of each lung posteriorly occasionally coated with a soft, dirty-gray false membrane, readily detached. Lower lobes of both lungs injected. Upper lobes not abnormal. Peritoneal surface of intestines in part smeared over with a purulent film; fibrinous clots were occasionally found between adjacent coils of intestines. The adjoining portions of intestines were minutely injected. About half a pint of thin purulent fluid was found in the abdominal cavity, and thicker pus between the diaphragm and liver. Spleen considerably enlarged, soft, dark colored, crepitating; on section, of a dirty-brown color; follicles indistinct. Both kidneys normal in size, flaccid; capsules readily de-

tected; surface beneath smooth, dotted with small circumscribed hemorrhages. General color, reddish-gray. In one, mucous membrane of pelvis swollen, cedematous, hemorrhagic. Abundant yellowish circumscribed membranous patches, the size of a pin's head, which, when separated, left minute losses of substance beneath. Section of kidney prevented any absolute judgment, though of a very decided degree of opacity. Liver small, flaccid, reddish-gray color; on section, the lobules were small and more opaque than usual; central part pigmented.

Stomach and intestines largely distended with gas. Mucous membrane of stomach thickened and opaque, and that of intestines, small and large, presented no unusual appearances. Bladder contained but little urine. Mucous membrane opaque; on posterior wall numerous small hemorrhagic spots, on the surface of some of which a yellowish false membrane was found in small patches. There was a warty growth at the vaginal orifice of the urethra. Uterus enlarged, projecting slightly from brim of pelvis, its walls exceedingly flaccid; peritoneal surface smeared with occasional patches of false membrane, not especially prominent at any one point. The right ovary was a soft, sloughing, yellowish mass, with occasional patches of hemorrhage, and communicating with the broad ligament, the adjoining tissues being infiltrated with a reddish yellow pus. No evidence of normal structure to be found. The fimbriated extremity of the right Fallopian tube contained a cyst the size of a walnut, full of a brownish material; the inner wall was covered with a delicate warty growth. The cyst was united to the Fallopian tube by a dense fibrous pedicle, constricted by a firm fibrous band. Left ovary covered with enlarged cedematous and hemorrhagic patches, and contained a corpus luteum one third of an inch long. Right Fallopian tube patent, abdominal end containing an opaque fluid.

Internal surface of uterus, especially at cervical portion, smeared over with an adherent greenish membranous layer, which also dotted the placental insertion, which was at the fundus on the anterior wall. Shreds of soft yellow, evidently fetal, membranes were found near fundus. Slight lacerations on cervix. Vagina near outlet showed occasional false membranes, and some of them covered ulcerated surfaces. In cellular tissue surrounding were sinuous cavities with smooth walls filled with pus. The cellular tissue beneath peritonæum in Douglas's fossa was cedematous, but not purulent. Perineal rent smeared over with adherent false membrane. Uterine sinuses empty. No pus in walls of uterus.

Diagnosis: Septicæmia; acute pleuritis and peritonitis; splenic tumor; parenchymatous nephritis; diphtheritic pyelitis and diphtheritic cystitis; diphtheritic endometritis and vaginitis; peri-vaginal lymphangitis; gangrenous ovaritis; cysts in Fallopian tube.

Case of Extensive Gangrene; Delivery by Craniotomy; Death. — J. T., aged thirty-four, entered the Boston Lying-in Hospital on June 5th, in labor with her ninth child. She had had constant pain for the previous ten days, according to her own story and that of the attending homœopathic physician, the waters having broken half an hour before entrance. Her confinement not being expected until the last of July, no known cause of labor beginning dur-

ing the seventh month could be discovered, except the local trouble to be described. On inquiry it was found that for two or three months she had had a more or less profuse vaginal discharge, sometimes yellowish and thick, at other times whitish. She had suffered from constant pain, referred to the region of the vagina, but had never consulted a physician. Her general health had been very poor, weakness being the prominent symptom. For the last six days the discharge had had an offensive character, which had daily become worse.

On entrance, her appearance was that of a woman somewhat exhausted; pulse 100, temperature 100°, pains intermitting at intervals varying from ten to twenty minutes. There was a slight vaginal discharge, very offensive in character. On examination the vagina was found to be very much roughened, and at the upper third somewhat constricted. Three fifteen-grain doses of chloral were given at intervals of twenty minutes, which somewhat quieted the patient, and vaginal injections of water and carbolic acid were ordered every three hours. Pains were quite feeble through the night. The following morning a more thorough examination was made. Owing to the extreme difficulty of reaching the os, and the pain attending the vaginal examination, the patient was etherized and Cusco's speculum was introduced. The whole surface of the vagina was found covered with ulcerations, varying in size from minute points up to large patches, involving an area of two or three square inches. These larger ulcers had sharply defined margins of very irregular outline. Some of them were covered with a grayish gangrenous deposit, and the factor of the vaginal discharge was very great. Above the constriction before mentioned the os could be felt, about one third dilated, and the presenting part (head) could be felt within the os and above the superior strait. A Barnes's dilator was introduced at 11.10 A. M. Pains continued through the day, of greater severity and more frequent than before entrance. The dilator was expelled by a pain at 5.50 P. M. The labor continued through the night, the pains at no time being severe; vagina hot but moist, pulse 116, temperature 101°. Vaginal injections were used at frequent intervals.

June 7th. At the morning visit the patient was again etherized. The os was found to be about two thirds dilated, and the presenting part was somewhat lower down than on the previous evening. The patient being greatly exhausted, immediate delivery was decided upon; the urine was drawn with the catheter, and the forceps introduced by Dr. Richardson, the uterus being held in position by Dr. Samuel Howe, who happened to be in the hospital at the time. After some time the head was drawn down towards the perineum, but it did not pass beyond the os. Owing to the extreme difficulty found in effecting the extraction of the child from the uterus, and the fear of separating the uterine attachments, on account of the gangrenous condition of the upper part of the vagina, perforation was decided upon. The head was perforated with Braun's trephine, the brain being subsequently broken up with Smellie's scissors. Delivery was accomplished with the cranioclast. The child was a female, weighing four and a half pounds. The placenta, being partially adherent, was removed with the hand.

A solution of perchloride of iron, one part to three parts of glycerine and

water, was then applied as thoroughly as possible to the ulcerated surfaces, and a tampon of cotton-wool soaked in the same was left in the vagina. The patient recovered well from the ether. Three hours after there was a profuse post-partum hæmorrhage. The tampon was removed by the house-physician, and the vagina thoroughly washed out with ice-water. Ergot was also ordered. The hæmorrhage ceased. Two grains of sulphate of quinia every three hours were ordered, as well as vaginal injections every two hours. Evening temperature 98.8°; pulse 160.

June 8th. A. M., temperature 101°; pulse 124. P. M., temperature 99.6°; pulse 108. The patient had a comfortable night. Appears nicely, and reports herself as feeling "splendidly, but weak." Uterus slightly enlarged and tender. Vaginal discharge very offensive. Injections ordered every hour, day and night. Twenty-five drops of tincture of chloride of iron four times daily substituted for the quinine. Stimulants and liquid food.

June 9th. A. M., temperature 101.2°; pulse 124. P. M., temperature 103°; pulse 140. Manner somewhat lethargic. No appearance of milk. Discharge decidedly less offensive and less in quantity. Tongue coated. Less flowing. No abdominal tenderness. Appetite fair. Mind not affected. At midnight last night a large amount of *débris* came away during an injection. Superficial examination of the ulcerations near the orifice of the vulva showed them, as far as seen, clean and apparently covered with minute points of healthy granulations. Injections given every two hours.

June 10th. A. M., temperature 98.2°; pulse 100. P. M., temperature 103.2°; pulse 156. At one A. M. the patient had a sudden attack of dyspnoea, with a rapid, feeble pulse. Rallied under stimulants, and at time of morning visit appeared brighter and stronger than yesterday. Discharge less profuse and decidedly less offensive. No milk. No abdominal tenderness, even on deep pressure. Tongue coated. Ulcers near the vulva presented a grayish color, and did not look as well as yesterday.

June 11th. A. M., temperature 102.8°; pulse 144. P. M., temperature 105.2°; pulse 156. Some tympanites. No abdominal tenderness. Decubitus dorsal. Had a restless night. Feels "tired." Manner lethargic. More discharge than yesterday, and more offensive.

June 12th. A. M., temperature 103°; pulse 140. P. M., temperature 104°; pulse 144. Discharges more and more offensive. Restless night. Not so well as yesterday. Decubitus dorsal. Beef tea nauseates, so it was given by enema. Breathing of a wheezing character. No pain in chest. Mind wandered somewhat towards evening.

June 13th. A. M., temperature 103°; pulse 148. P. M., temperature 105.2°; pulse 160. Restless night. Decubitus dorsal. No abdominal tenderness. No milk. Respiration 56. Gradually losing ground. Mind wandered somewhat, but the patient answered rationally when addressed. Marked dyspnoea. Auscultation showed coarse and fine mucous râles in right and left lungs in front. Back not examined. Medication and stimulants as before.

June 14th. A. M., temperature 103.8°; pulse 144. P. M., temperature 103°; pulse 156. Losing ground steadily, but retains her courage to a remarkable degree. Unable to speak above a whisper from weakness. Vaginal

discharge very offensive. Râles in lungs still continue, and increase in area. Respiration 60.

June 15th. A. M., temperature 103°; pulse 148. P. M., temperature 103°; pulse 156. Seemed very weak at intervals during the night. Unable to speak. No change in the character of the discharge or breathing. At intervals of from four to six hours had sudden attacks of great prostration, with difficulty of breathing and trembling of the hands. Respiration 64. Vagina very offensive.

June 16th. A. M., temperature 103°; pulse 160. No change in the character of the symptoms. Respiration 72. Stimulants and injections continued. Grew gradually weaker through the day, and died very quietly at 3.45 P. M.

Autopsy, by Dr. R. H. Fitz, eighteen hours after death. Rigor mortis slight. Contents of stomach escaping like a frothy serum from mouth. Body pale. Inspection showed nothing unusual except at the vulva, which was the seat of extreme gangrene, particularly within the labia minora. Head not opened. Pericardium contained two ounces of yellow fluid. Heart flaccid; slight amount of liquid and clotted blood in right auricle, and less in ventricles. Valves and cavities apparently healthy. Pulmonary artery contained post-mortem clots. Left lung adherent throughout to thoracic walls by old adhesions. This lung œdematous; otherwise normal. Right pleural cavity contained half a pint of grayish-white, opaque fluid. Pleural surface was besmeared with a thin layer of a dirty-gray membrane, irregularly distributed. At base of right lung an irregular, circumscribed, opaque, greenish-white surface, representing gangrenous pleura, covering a cavity within the lung just beneath, which contained gas and a greenish fluid of an offensive character; the walls composed of numerous shreds of tissue, dirty-green in color, representing sloughs. The lung tissue surrounding œdematous, not hepatized. The whole upper lobe dense, not crepitating on section, of a white color, surface slightly granulated, with occasional yellowish viscid plugs in bronchi, and moderately opaque, pinkish fluid was to be squeezed from the surface. Peritoneal surface showed nothing abnormal. Spleen three times its normal size, soft, pale on section, resembling red paint. Both kidneys considerably enlarged, very flaccid; capsules readily detached; surface beneath moderately injected, greenish-white, opaque, and in region of convoluted tubes particularly so. Bladder contained a small amount of opaque, puriform fluid, and general surface showed nothing unusual. Posterior surface of bladder near its connection with the uterus thickened, hæmorrhagic, with the serous coat over a limited portion opaque, white, and rather friable. This part was adjacent to a sloughing, discolored, gangrenous perforation of the vaginal wall, near the cervix uteri. Uterus contracted, serous surface healthy, muscular wall pale and white, venous sinuses empty, except at fundus. The inner surface of the uterus gangrenous; the cervix also gangrenous, in parts lacerated. The vagina extensively gangrenous, especially on anterior wall, where perforation had taken place towards the outlet, as well as at the upper part. The gangrene had extended for a short distance into the urethra; also into the outer half inch of the rectum, there being practically no perinæum. The right ovary contained a recent corpus luteum of large size, which was attached by recent adhesions to the pelvic walls, and was gangre-

nous. Right ovarian vein thickened, of a light-yellow color; tissues surrounding swollen, but no thrombus present. Left ovary and ovarian vein normal. Liver flaccid, opaque, white, enlarged; lobules indistinct. Gall-bladder contained several small stones. Cystic duct dilated.

Diagnosis: Gangrene of lung; suppurative pleurisy; lobar pneumonia; splenic tumor; cloudy kidneys and liver; gangrenous endometritis and vaginitis; phlebitis of right ovarian vein.

Case of Anencephalic Monster, with Spina Bifida and Umbilical Hernia. — A. C., twenty-two years old, entered the Boston Lying-in Hospital April 28th, in labor with her first child. Examination showed the os three quarters dilated, with a tense bag of membranes protruding. No presenting part could be felt, care being taken not to rupture. External palpation showed an unusually large abdomen, the upper part being especially enlarged, and falling away gradually from the umbilicus to the pubes. The fetal heart could not be detected. The child lying in the longitudinal axis of the uterus, and the head not being felt over the pubes, the diagnosis of probable breech presentation was made. Pains continued very feeble through the night, at intervals of fifteen or twenty minutes, but in the morning the condition of things remained unaltered, the membranes still tense and protruding, and the presentation still not made out. At ten A. M., Dr. Richardson, suspecting hydrops amnii, introduced a catheter high up into the membranes, which was followed by a tremendous gush of liquor amnii, lasting for some minutes. Actual measurement showed seven and a half quarts, and the amount which soaked the bedclothes and was lost gave somewhat over two gallons in quantity.

First stage completed at 10.20 A. M. The child's head had been detected over the pubes, and a vaginal examination now showed a face presentation, with forehead towards the sacrum and chin towards the pubes (left). The pains immediately became stronger, and the head descended rapidly until it reached the perinæum, when they grew feebler, and no further progress was made. Patient's strength and pulse remained good.

At 3.30 P. M. Dr. Richardson decided to apply forceps, and the patient was accordingly catheterized and etherized. On making the preliminary examination the finger passed over an unbroken surface from the mouth to what was apparently the axilla, on the right of the examiner, while high up on the left several bony prominences covered with thin skin or membrane could be felt. The diagnosis of monster was then made, and the fingers being inserted into the axilla, and traction used, the left arm was extracted. Both hands were then inserted into the vagina, embracing the head and part of the body, and the child was withdrawn by continued traction. In the extraction of the arm the humerus was broken, and the skin and the muscular tissue beneath torn in the bend of the axilla. Examination of the child showed that putrefaction had begun, the cuticle peeling off, which probably accounted for the ease with which the muscles gave way when traction was made on the arm. The baby was a male weighing three pounds, and a monster known as anencephalic, with spina bifida and umbilical hernia. The placenta was removed by Credé's method, and was somewhat larger than usual, being unusually long in shape. One drachm of ergot was given, and there being some tendency to hæmorrhage, ice-

water injections were used. Owing to the weakened condition of the mother's pulse, brandy was given. The uterus contracted well, and the pulse remained at 92. Perinæum intact. Patient recovered well from the ether, and had a comfortable night.

For several days there was marked tympanites and offensive lochia, requiring injections of permanganate of potash, one scruple to the pint, four times daily. Pulse ranged from 108 to 120. Temperature averaged about 101°. On the 8th of May she was put upon quinia, two grains three times a day, and stimulants, which were continued until the 21st, when the quinine was stopped, and tincture of chloride of iron, twenty-five drops three times a day, substituted. During this time she gained gradually, but remained pale and anæmic, with no strength or desire to rise from the bed. Two threatened bed-sores were averted by cold applications and bathing with carbolic acid. On May 23d she sat up for the first time, and on the 28th was transferred to St. Luke's Home for Convalescents, much improved.

LETTER FROM NEW YORK.

MESSRS EDITORS, — The Medical Society of the State of New York was incorporated by an act of the legislature, passed April 4, 1806, and the society met for organization on the first Tuesday in February, 1807, with twelve representatives present. In 1820 there were twenty-eight representatives at the meeting; but it was not until 1857 that the number reached one hundred. In 1875 the number of delegates and permanent members reached two hundred and fifty-nine. One cause for the small number of representatives present at the earlier meetings was the distance from the place that many lived, and the inclement season of the year in which the annual meeting was held. In 1851 it was resolved to hold a semi-annual meeting of the society at Buffalo on the second Tuesday in June, 1852. One was held at New York in the following year; since then they seem to have been discontinued. Until 1853 the society consisted of delegates from the county medical societies only. This year two permanent members were elected from each senatorial district. The society as now constituted consists of delegates, permanent and honorary members. The delegates are elected by the county medical societies, each one of which is entitled to send as many as there are members of the assembly from that county. Each incorporated medical college, conducted by members of the profession, is allowed to send one delegate, and the New York Academy of Medicine five. Each delegate is elected for four years, in such a manner that one fourth of the whole number go out of office annually. The society in 1832 made provision for publishing its transactions in a permanent form, and in 1833 volume i. of the Transactions was issued; only one hundred copies were printed. Volume ii. appeared in 1835; volume iii. in 1837; volume iv. in 1840; volume v. in 1842; volume vi. was not issued until 1846; volume vii. was published in 1849. In 1850 the Transactions were printed by the State, and became a legislative document. They continued to be issued by the State yearly until 1872, when, no appro-

priation being made, the publication as a state document was discontinued, and in 1873 the society again assumed the expense of publication. The volume for 1875 was furnished to members of the county societies at one dollar and seventy cents a volume.

The seventy-first annual meeting was held this year at Albany, on the 16th of June, and lasted three days, with a morning, afternoon, and evening session. The following are the titles of the papers read: Recent Improved Methods of Diagnosis and Treatment in Urethral Surgery, with Tabulated Statements of Results in Forty-five Cases, by Dr. R. U. Pease. Four Cases of Sudden Death, Coroner's Cases, by Dr. J. Kneeland. Operation for Closure of Cleft of Hard Palate, with Report of Cases, by Dr. A. Van Derveer. Sanitary Inspection of Schools, by Dr. William C. Way. Woorara in the Treatment of Rabies Canina, by Dr. J. W. Greene. The Forcible and Rapid Dilatation of the Cervical Canal for Cure of Antelexion, by Dr. H. T. Hanks. Forcible and Rapid Dilatation of the Cervix Uteri for the Relief of Stricture, Conical Cervix, Sterility, etc., by Dr. John Ball. Puerperal Metastatic Iridochoroiditis, by Dr. T. R. Pooley. Punctured Wound of Lung, Diaphragm, and Liver, with Recovery, by Dr. S. L. Parmelee. Report of Case of Fracture of the Base of the Skull, with Recovery, by Dr. J. B. Graves. Pulmonic Fever; Grounds for considering Acute Pneumonia an Essential Fever and not purely a Local Inflammation, by Dr. Austin Flint. Two Cases of Convulsive Disease without Convulsions, by Dr. Mary Putnam-Jacobi. Stone in the Bladder, by Dr. J. W. S. Gouley. Nitrite of Amyl in Pertussis, by Dr. George Bayles. The Cold Bath in Scarlatina, by Dr. C. H. Giberson. Jaborandi, by Dr. A. Hutchins. Vaginal Injections, by Dr. F. P. Foster. Some of the Morbid Conditions of the Prostate Gland, by Dr. Frederick Hyde. Pseudo-Membranous Laryngitis; Tracheotomy; Relapse and Recovery, by Dr. N. L. Snow. Tar Fumigations in Gangrenous Sores, by Dr. Lewis Post. Hydrochlorate of Ammonia, by Dr. C. G. Pomeroy. Certain Points relating to the Nature and Treatment of Lupus, by Dr. H. G. Piffard. Hereditary Transmission of Disease, by Dr. Ira F. Hartt. Hæmophilia, by Dr. James C. Hutchinson. Experience in Shoulder and Arm Presentations, by Dr. I. Parsons. Cases of Wounds of the Synovial Membrane of the Knee-Joint successfully treated without Antiseptic Application, by Dr. George Burr. Action of Mercury, by Dr. H. N. Eastman. Opium Inebriety and the Hypodermic Syringe, by Dr. S. F. McFarland.

The society was called to order daily at 9.30 A. M., and remained in session until one P. M.; then adjourned until three P. M., the afternoon session lasting until six P. M.; the evening session began at eight P. M., and lasted until ten P. M. The following order of exercises was adopted: At the morning session, first, general business, followed by the reading of papers; remarks and inquiries were then called for; only a few minutes, however, were allowed to each speaker. It was intended that no general business should be introduced into the afternoon and evening session, but the wishes of the president were overruled and some matters were brought up, but not to the extent that has usually been done at former meetings of the society. In order to facilitate business a schedule was published, giving the titles of papers to be presented,

their order, and the length of time allotted to each, also the time for general business. By this plan a greater amount of business was transacted and a greater number of papers read than at any previous meeting. Dr. Squibb, as delegate to the American Medical Association, made some remarks on the action of that body in regard to revising the Pharmacopœia, but the society does not seem to have taken any action upon it. It seems almost impossible to settle upon the proper time for holding the annual meeting. From the organization of the society until 1874 the time for holding the meeting was the first Tuesday in February. It was then changed to the fourth Tuesday in September. In 1875, 1876, and 1877, it was held on the third Tuesday in June, and now they have altered it to the third Tuesday in February. The nominal reason for this last change is that as the homœopaths and eclectics hold their meetings in the winter during the session of the legislature, the fear is that they will influence that body and prevent needful legislation. The real reason seems to be that the month of June is inconvenient both to the city and country practitioners. The former have just got through their winter's work and do not enjoy a visit at Albany; the latter are just beginning their practice among those who go from the city to the country for the summer, and they do not like to lose any of it. February is a very inconvenient month for both classes of physicians; it is an unpleasant month to travel in. During the meeting of the legislature the hotels are full, and the capital of New York is not the most attractive place during the inclement season. Neither party is satisfied with the change.

The committee on the prize essay reported that no essay had been presented, and that there were no funds with which to pay a prize.

Last year a committee, of which Dr. E. M. Moore was chairman, was appointed upon the subject of "establishing a committee to determine the qualifications of students in medical colleges who are about to enter the profession, the services of such committee to be tendered to such colleges as may desire them." On account of the absence of the chairman the subject was postponed until the next annual meeting. It is difficult to see what good can come from the consideration of this subject. Any change in the mode of instruction or in the qualifications for graduation must be made by the colleges themselves, and as they are at present governed we have little to expect from them.

There has been considerable feeling heretofore in regard to the manner in which the nominating committee has been appointed. The president has appointed one person from each senatorial district, and the eight persons thus selected formed that committee. This year the by-law was so amended that "the permanent members and delegates from each senatorial district shall constitute a committee, which shall elect one of their own members and from their own district, who shall be a member of the nominating committee, and the eight persons thus elected shall constitute a committee on nominations." This takes the appointment of the most important committee out of the hands of any ring that may be formed and gives it to the delegates; it cannot fail to add to the harmony of the association. The meeting that has just closed its session has been one of the most successful ones, both in regard to

the amount of business transacted and in the character of the papers presented. There was but little trash, and those who have so often taken up the time of the society by reading papers consisting of a rehash of what they have read before, or published in some medical journal, were few in number. To the president, Dr. E. R. Squibb, of Brooklyn, great credit is due for the manner in which the meeting was conducted, and for the strict way in which the printed programme was carried out.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JULY 28, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	707	34.13	27.46
Philadelphia	850,856	408	24.93	22.88
Brooklyn	527,830	355	34.97	24.31
Chicago	420,000	250	30.95	20.41
Boston	363,940	243	34.72	23.89
Providence	103,000	54	27.26	18.34
Worcester	52,977	26	25.52	22.00
Lowell	53,678	27	26.16	22.21
Cambridge	51,572	29	29.24	20.54
Fall River	50,372	48	49.55	22.04
Lawrence	37,626	23	31.79	23.32
Lynn	34,524	9	13.56	21.37
Springfield	32,976	15	23.65	19.69
Salem	26,739	20	39.27	23.57